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10/736,339	12/15/2003	Rajesh K. Saini	2001-IP-005484UIPI	3700
71407	7590	01/17/2008	EXAMINER	
ROBERT A. KENT			TSOY, ELENA	
P.O. BOX 1431				
DUNCAN, OK 73536			ART UNIT	PAPER NUMBER
			1792	
			NOTIFICATION DATE	DELIVERY MODE
			01/17/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ROBERT.KENT1@HALLIBURTON.COM  
Tammy.Knight@Halliburton.com

## Office Action Summary

**Application No.**

10/736,339

**Applicant(s)**

SAINI ET AL.

**Examiner**

Elena Tsoy

**Art Unit**

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/20/07, 12/14/07, 12/21/07.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 21, 2007 has been entered.

***Response to Amendment***

Amendment filed on December 21, 2007 has been entered. Claims 7-19 are pending in the application.

***Specification***

1. The disclosure is objected to because of the following informalities: a phrase “*polyesters; poly(orthoesters); aliphatic polyesters*” in P20 of the specification as originally filed seems to be incorrect because aliphatic polyesters are also polyesters. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites a phrase “with the proviso that the acid-releasing degradable material is not polyester”, which renders the claim indefinite because it contradicts claim 11 reciting that the acid-releasing degradable material of claim 7 comprises an aliphatic **polyester**. For examining purposes the phrase was interpreted as “with the proviso that the acid-releasing degradable material is not alicyclic or aromatic polyester”, since it is well known in the art that generally polyesters include aliphatic, alicyclic and aromatic polyesters.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (US 6,209,643).

Nguyen et al disclose a method of introducing treatment chemicals and treating a subterranean formation comprising providing a fluid suspension including a mixture of particulate material such as gravel packing material (See column 8, lines 20-21) in said fluid suspension, a solution of a tackifying compound in a solvent (See column 5, lines 10-13) such as **alcohol** (See column 4, lines 55-56) and a treatment chemical whereby the treatment chemical is contacted by said tackifying compound and at least partially coated therewith whereby the tackifying compound **retards** release of said treatment chemical in said fluid suspension; and depositing the coated particulates in the subterranean formation whereby coated treatment

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chemical is subsequently released within the subterranean formation (i.e. the tackifying compound is *degradable*) to treat at the portion of formation in contact therewith (See column 12, lines 33-55). The tackifying compound includes **any** compound (See column 5, lines 11-12), e.g. a polamide (See column 5, lines 21-23) or **polyesters**, polyethers and polycarbamates, polycarbonates, styrene-butadiene lattices, natural or synthetic resins such as shellac and the like (See column 6, lines 9-14); and the treatment chemical include **gel breakers** such as oxidizers, enzymes or hydrolyzable esters that are capable of producing a pH change in the fluid (See column 4, lines 40-42). The tackifying compound is admixed in an amount of 0.1-3.0 % by weight of the coated particles (See Example 1; column 9, line 65 to column 10, line 5).

As to *aliphatic polyester* of claim 7, the Examiner takes official notice that it is a common knowledge in the art that generally polyesters include aliphatic, alicyclic and aromatic polyesters. Since Nguyen et al do not limit their teaching to particular polyesters, “polyesters” of Nguyen et al cover any polyester including aliphatic, alicyclic and aromatic polyesters. Therefore, it would have been obvious to one of ordinary skill in the art to have used *aliphatic* polyesters, as required by claim 7.

The Examiner takes official notice that the *aliphatic polyester* in a coated gravel of Nguyen et al is claimed acid-releasing degradable material which degrades a filter cake by slowly releasing acid when formed as gravel pack next to the filter cake because the method of Nguyen et al is substantially identical to that of claimed process. The Examiner also takes official notice that a mixture of the *aliphatic polyester* and the hydrolyzable ester of Nguyen et al also reads on claimed acid-releasing degradable material because claim 7 recites that the acid-releasing degradable material may be *any* acid-releasing combination of compounds.

As to claimed solvent of claim 12, obviously, one of ordinary skill in the art would use a conventional alcohol such as methanol and isopropanol as a solvent in Nguyen et al because Nguyen et al does not limit their teaching to particular alcohols.

As to claims 13 and 19, plasticizers were not addressed because they are optional.

6. Claims 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted state of art (ASA) in view of Nguyen et al.

Applicants admit that it has been found that acid-releasing degradable material may be coated onto a particulate and act at a delayed rate to produce acid such that the particulate may be placed in the subterranean formation adjacent to the filter cake before a substantial amount of acid is released (See the Applicants' specification, P9). In such methods known in the art, the acid-releasing degradable material had to be coated onto the particulate in a controlled environment off-site from the well head, stored, and transported before it could be used in a subterranean formation (See the Applicants' specification, P9). In other words, Applicants admit that it was not known to coat the acid-releasing degradable material onto a particulate on-the-fly.

However, Nguyen et al teach that it was known to use resin-coated particles produced at high cost (in advance) for treating a subterranean formation (See column 2, lines 16-20).

However, it is advantageous to use a particulate coated with a resin based *treatment material* by mixing the particulate with a solution of a resin based *treatment material* (claimed coating on-the-fly) in a solvent (See column 5, lines 10-13) such as alcohol (See column 4, lines 55-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have coated acid-releasing degradable material onto a particulate in ASA on-the-fly by mixing the particulate with a solution of acid-releasing degradable material in alcohol instead

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of coating it onto a particulate in advance since Nguyen et al teach that it is advantageous to use a particulate coated with a solution of a resin based treatment material on-the-fly.

All other limitations would be obvious for the reasons discussed above.

7. Claims 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Free et al (US 3960736).

Nguyen et al are applied here for the same reasons as above. The Examiner takes official notice that a mixture of the *aliphatic polyester* and the hydrolyzable ester of Nguyen et al also reads on claimed acid-releasing degradable material because claim 7 recites that the acid-releasing degradable material may be *any* acid-releasing combination of compounds.

Nguyen et al fail to teach that a combination of tackifying compound and hydrolyzable esters is capable of gel breaking by releasing acid by hydrolyzable esters.

Free et al teach that an organic ester which hydrolyzes over a certain period of time to release an acid may be used as a breaker of a viscous aqueous solution for the use as a fracturing fluid, as a drilling fluid (See column 1, lines 36-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a hydrolysable ester that releases an acid as a breaker chemical in the combination of tackifying compound and hydrolyzable esters of Nguyen et al since Free et al teach that an organic ester which hydrolyzes over a certain period of time to release an acid is suitable for the use as a breaker of a viscous aqueous fracturing fluid, or a drilling fluid.

All other limitations would be obvious for the reasons discussed above.

8. Claims 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Lee et al (US 6,817,414).

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Nguyen et al are applied here for the same reasons as above. Nguyen et al fail to teach that the treatment chemical that **releases acid** can be used as a gel breaker to degrade a filter cake.

Lee et al teach that gravel having coating comprising chemicals that slowly hydrolyze and release an acidic by-product (See column 3, lines 6-15), e.g. lactic polymer (See column 3, lines 20-28) can be used to degrade a filter cake (See column 2, lines 52-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used acid releasing treatment chemicals in coated gravel of Nguyen et al for degrading a filter cake since Lee et al teach that chemicals that slowly hydrolyze and release an acidic by-product are suitable to be used to degrade a filter cake; and Nguyen et al do not limit their teaching to particular gel breakers.

All other limitations would be obvious for the reasons discussed above.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 7-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.



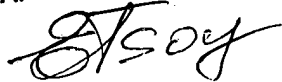
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy, Ph.D.  
Primary Examiner  
Art Unit 1762

ELENA TSOY  
PRIMARY EXAMINER



January 7, 2008